Fall 1983

Food News for Consumers

United States Department of Agriculture Food Safety and Inspection Service

USDA's Food Safety and Inspection Service:

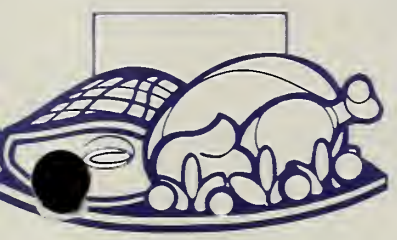
- *Inspects and analyzes domestic and imported meat, poultry, and meat and poultry food products;*
- *Establishes standards and approves recipes and labels for processed meat and poultry products; and*
- *Monitors the meat and poultry industries for violations of inspection laws.*

Holidays Happier with Safe Ham and Turkey

Do you know the safest way to thaw a turkey? Or the cooking temperature that can destroy trichina organisms that could be present in ham?

Though roast turkey and baked ham are longtime popular dishes, consumers still have many questions about the safe handling and storing of these foods, particularly during the holiday season.

Since poultry and meat are highly perishable, the prevention of food poisoning should start in the supermarket. Before buying products like turkey and ham, make sure they have been stored at 40°F. Germs will not readily multiply at this temperature.



When buying fresh turkeys, don't select birds that are stacked above the refrigerator line in the store's refrigerator case. Also, check the bird for an off-odor, which could indicate bacterial growth or spoilage.

Thawing the turkey provides another opportunity for germs to grow. While waiting for the inner part of the turkey to thaw, the outer part, which of course thaws much more quickly, could reach a temperature that provides a suitable breeding ground for bacterial growth. To avoid this problem, thaw the turkey in the refrigerator.

Safety precautions should also be taken when purchasing and preparing ham. Ham can be purchased fresh, cured, cured and smoked or canned. Some are "fully cooked" or precooked, so read the label carefully for cooking, storing and handling instructions. Make sure cans containing ham are not bulging, leaking or severely dented, particularly on a seam. Also look for expiration dates embossed on the cans.

Fresh pork should be cooked to an internal temperature of 170°F to kill any trichina organisms that might be present. Fully cooked hams are specially processed in accordance with USDA guidelines and are ready to eat without further cooking.

The FSIS Fact Sheet, "Safe Foods for the Holiday Season," can answer many of the questions you might have concerning the safe handling and storing of turkeys and hams. Or you may call the Food Safety and Inspection Service's Meat and Poultry Hotline at (202) 472-4485 with questions or complaints about the safety and wholesomeness of meat and poultry products.

USDA Proposes Changes in Pet Food Labeling

"Fido" may not notice, but a new proposal by USDA's Food Safety and Inspection Service would allow greater flexibility in pet food labeling, while continuing to assure the products are conspicuously identified and not mistaken for human food.

Current labeling practices have raised concern that consumers might confuse pet food with food intended for humans. The proposal expands the options for labeling retail-packaged pet foods so that:

(1) If the product name includes any words that might lead consumers to mistake it for human food--for example, "beef dinner for dogs"--the entire product name must be stated as one unit with letters of equal size; and

(2) If a product has a name like "Dog Food," these letters must be at least twice the size of those indicating the presence of livestock ingredients, such as, "ground beef";

(3) If the label includes an illustration of the animal for which the product is intended, the letters used to indicate the product is for animals--for instance, "for dogs"--must be one-half the size of the product name.

In addition, USDA is proposing that the current exemption from denaturing for pet food prepared from livestock be extended to that containing poultry. USDA requires that meat and poultry not intended for human consumption be denatured by the addition of substances such as bone, charcoal and non-toxic dyes to assure it does not resemble edible food. Exemptions from denaturing are allowed, however, for meat used in retail-packaged pet foods that are appropriately packaged and conspicuously labeled as pet food, contain less than five percent livestock parts or products or consist solely of processed livestock by-products that do not resemble edible meat.

USDA is now evaluating public comments on the proposal before deciding what action to take.

USDA is responsible for assuring that pet foods containing meat or poultry do not enter human food channels. The Food and Drug Administration has primary authority for regulating the production of pet food.

For more information, see Press Release #857-83, "USDA Proposes to Revise Requirements for Pet Food" (8-4-83).

New Rule Streamlines Approval of Additives for Meat and Poultry

USDA's Food Safety and Inspection Service will expedite approval of meat and poultry additives that have already been approved by the Food and Drug Administration or are generally recognized as safe. The new rule also improves procedures for expanding uses of these substances.

The regulation is a procedural change only. In line with federal inspection requirements, no additives will be approved for use in meat or poultry products before a full evaluation is made regarding their wholesomeness and suitability for use in those products.

After an additive is reviewed, FSIS will have the option of issuing a final approval without further delay. Previously, FSIS had to conduct lengthy rule-making proceedings on proposals for approving new substances, expanding use of already approved substances or changing usage levels for already approved substances.

The new rule takes into account that the FDA approval process--which must precede USDA approval--has frequently resolved all questions about the safety of an ingredient. As a result, unnecessary delay and expense associated with USDA approvals can be eliminated.

Under the Federal Food, Drug and Cosmetic Act, all food additives are considered unsafe until FDA finds them safe for a particular use. Substances classified as "generally-recognized-as-safe" are exempt from the approval process because past extensive use has produced no known harmful effects.

When an additive is proposed for use in meat and poultry products, it must also be evaluated by FSIS, as provided in the Federal Meat Inspection Act and the Poultry Products Inspection Act. Whenever any substance is added to such products, its presence must be shown in the ingredient listing on the label.

The new rule does not change the agency's authority to restrict certain substances when their safety or suitability in USDA-regulated products is questionable.

For more information see Press Release #769-83, "New USDA Rule Facilitates Approval of Additives for Meat and Poultry."

Keep Foods Safe During Holidays

Good foods make up an important part of Thanksgiving, Hanukkah, Christmas and New Year's--major holidays that include dining with family and friends. But unless precautions are taken with traditional meat and poultry dishes, your festivities could fizzle.

Many food poisoning cases that occur in this country each year result when holiday dishes of meat and poultry are not handled or prepared properly. Food poisoning germs seldom change the taste, odor or look of food, so contamination may not be detected. You can protect your holiday meal by practicing these basic food safety rules.

Keep hot foods hot. Normally, germs are killed when meat or poultry is boiled, broiled or roasted. If these foods are not thoroughly cooked, however, a few remaining germs can multiply dramatically. To avoid problems, cook foods with a thermometer inserted in the thickest part of meat or poultry to make sure the proper cooking temperature is reached.

To avoid the growth of food-poisoning germs, meat or poultry dishes prepared ahead of time for a later meal should be refrigerated within 30 minutes after cooking. If the food is to be served hot, make sure it is reheated to at least 140°F all the way through before serving to kill any germs present. Instead of setting out large buffet servings, try smaller ones, replenishing the food as needed from the stove.

Keep cold foods cold. Germs will multiply if perishable foods are left at room temperature more than two hours. Keep these foods cold--below 40°F until served. After dinner, refrigerate them right away.

Keep all foods clean. In a busy holiday kitchen, cross-contamination is most likely to occur if utensils, cutting boards or dishes used for raw meat or poultry are used again for cooked food. Avoid this problem by washing everything that has come in contact with raw meat or poultry before it comes in contact with cooked foods--and that includes your hands. Germs can also spread from raw to cooked food if the two come in contact.

Finally, when in doubt, throw it out. Never taste food with an off odor or appearance.

Poultry Industry Ensures Safe Chickens and Turkeys

Cooperative residue avoidance agreements between USDA and the poultry industry are keeping poultry contaminated by harmful levels of drugs or chemicals from reaching the processing plant--and consumers. Under the agreements, companies report results of their extensive quality assurance testing for residues to USDA's Food Safety and Inspection Service. At the same time, FSIS conducts its own testing to verify the results.

The agreements, the first of which dates back to 1976, require that companies report residue problems to FSIS immediately. The company and FSIS then work together to trace the source, and the company makes the needed corrections.

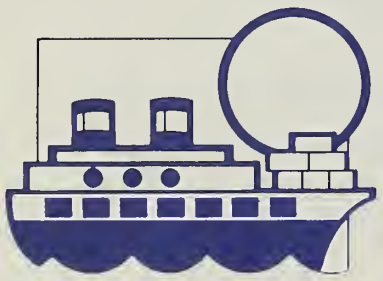
Initial testing of birds is done by industry while the flock is still on the farm. If a problem is detected, it can be corrected before the birds are slaughtered. Residue problems in poultry are infrequent, however, since most poultry companies plan their operations carefully. Avoiding residues is a major part of that planning, and testing to detect drugs and chemicals is routine. Not only do companies take tissue samples of birds for analyses, but they also check for hazardous residues in feed and even the litter used in the chicken houses.

In 1982, USDA and the National Broiler Council, which represents much of the broiler industry, signed a cooperative agreement that individual poultry companies are now using as a model. This agreement is a first with a commodity group.

Under federal inspection laws, meat and poultry must be safe, wholesome and unadulterated. The poultry industry has an added incentive--the need to maintain consumer confidence in the safety of its product. Quality assurance programs leave little to chance, so it's no accident that the most plentiful poultry supply in the world is also the safest.

For further information, see feature article #843-83, "Today's Chicks Come From Sophisticated Poultry Farms."

USDA Notifies Countries of Need to Correct Inspection Deficiencies



USDA's Food Safety and Inspection Service has notified meat inspection officials in 23 countries that they must correct certain deficiencies in their inspection programs in order to continue exporting meat products to the United States after Jan. 1, 1984.

Under the 1981 farm bill, imported products must meet domestic standards for sanitation, species verification and residue detection. Some of the 23 countries need to make only slight improvements, such as testing for a specific chemical residue in animal organ tissue. Others need to expand their entire residue testing programs to allow checking for additional compounds.

FSIS has no health concerns about meat products imported from these countries because in addition to the inspection performed in exporting countries, FSIS inspectors sample each shipment of imported meat when it enters this country to ensure that it is safe, wholesome and accurately labeled.

More than 85 percent of imported meat products originate in countries with inspection systems that now meet the new requirements of the farm bill. Thus, the 23 countries account for less than 15 percent of the meat products imported by the United States each year.

The 23 countries are Argentina, Belgium, Brazil, Bulgaria, Costa Rica, Czechoslovakia, Dominican Republic, El Salvador, France, Guatemala, Haiti,

Honduras, Iceland, Ireland, Mexico, the Netherlands, Nicaragua, Panama, Romania, Sweden, Switzerland, Taiwan and Uruguay.

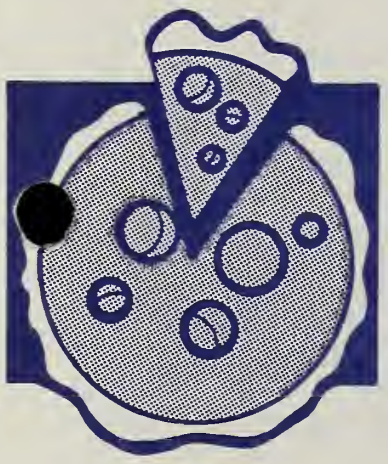
For more information see Press Release #772-83, "USDA Notifies 23 Countries of Need to Correct Meat Inspection Deficiencies."

USDA Proposes New Standard for Pizza, Labeling of Cheese Substitutes

"Pepperoni Pizza" may wear a new label if a USDA proposal is adopted. USDA's Food Safety and Inspection Service has proposed new labeling for cheese substitutes used in meat pizzas and other meat and poultry products.

The proposal would also for the first time require meat pizzas made in federally inspected plants to contain a minimum amount of natural cheese. If a pizza contains the minimum 12 percent "cheese" topping, 6 percent would have to be natural and the other 6 percent could be natural cheese, cheese substitutes or imitation cheeses. Manufacturers could satisfy the requirement by using 12 percent natural cheese.

Cheese substitutes are "not nutritionally inferior" to natural cheeses. "Imitation" cheeses and other imitation products are nutritionally inferior to the products they represent.



The proposal would require that meat pizzas must contain at least 12 percent cooked meat. Pizzas with less meat could be approved as long as their labels distinguished them from standardized "meat pizzas." A pizza made with six percent sausage, for example, might be labeled "Pizza with 6 percent sausage; this is not Sausage Pizza, which contains 12 percent sausage."

These requirements would not apply to non-meat pizzas sold in interstate commerce, which fall under the jurisdiction of the Food and Drug Administration, or to pizzas made in pizzerias and other retail establishments, which are regulated by state and local authorities.

Under the proposal, front label panels would for the first time indicate the use of cheese substitutes or imitations in meat and poultry products in which cheese is a characteristic ingredient. Cheese, cheese substitutes and imitation cheese would have to be listed in their order of predominance, as they already are in the label's list of ingredients.

If a product name contains a cheese reference or claim, its name would change. For example, "Beef and Cheese Turnover" might become "Beef Turnover with Cheese and Substitute Cheese."

For products such as meat pizzas, which consumers expect to contain cheese even though the product name has no reference to cheese, a qualifying statement would be required next to the product name, in print at least one-half the size. For example, "Sausage Pizza" to which imitation cheese was added might have a qualifier "Contains Cheese and Imitation Cheese." If only natural cheese had been used, the product would simply be called "Sausage Pizza."

The original period for public comment ended Oct. 3, but it has been extended. Comments will now be accepted through April 2, 1984. Comments should be identified as responses to Docket Number 78-733P and sent in duplicate to FSIS Hearing Clerk, Rm. 2637-S, Washington, D.C. 20250.

For more information, see Press Release #856-83, "USDA Proposes Labeling Changes for Substitute Cheese, Pizza" and the background paper, "Proposal to Revise Pizza Standard and Labeling Requirements for Meat and Poultry Products Containing Cheese Substitutes."

Learning Can Be a Picnic

Picnics are a time for food and active fun, so a picnic theme will carry the teaching message, "Summertime Food & Fitness," in USDA's 1984 children's poster contest. The Food Safety and Inspection Service sponsors the National Food Safety Poster Contest, a part of USDA's Food and Fitness campaign. The contest reaches all the nation's grade schools, public and private.

A picnic example is the perfect way to teach kids how to take proper care of food in hot weather--an important problem because the incidence of food-borne illness jumps dramatically every summer. It's also a great way to introduce youngsters to some fun and fitness activities.

This year's teaching kits, which will reach the nation's grade schools in December, explain how to fight summertime food illness through careful refrigeration and handling of food after it is taken home from the store. It also covers the safe handling of food at a picnic.

After completing the food safety lessons, the students will draw posters to show what they've learned. First place winners in three grade categories will win a trip for themselves, their parents and their teachers to Washington, D.C. The winners receive their awards from the Secretary of Agriculture.

The 1984 contest kits contain teaching masters from which 200 copies can be reproduced. Teachers or principals requiring additional kits can write to: 1984 National Food Safety Poster Contest, P.O. Box 14313, Dayton, Oh. 45414.

For further contest information, write or call: Laura Fox, FSIS Public Awareness, Rm. 1163-S, USDA, Washington, D.C. 20250, Telephone: (202) 447-9351.

USDA Suspends Distribution of Meat for School Lunch Program

On Sept. 21 USDA temporarily suspended Cattle King Beef Co., Denver, Colo., and Nebraska Beef Packers, Inc., Gering, Neb., from making sales of meat to federal government feeding programs. The two firms were under investigation by USDA's Inspector General for possible violation of the inspection law.

The action followed a Sept. 20 announcement that USDA was halting distribution of ground beef processed by the two firms and earmarked for use in the school lunch program. USDA estimated there were 6.4 million pounds of beef from these companies in distribution channels.

Routine testing by the Food Safety and Inspection Service of beef samples from those facilities since October 1981 indicated no health threat, and no reports of illness associated with beef from the two plants had been reported. Nonetheless, in the interest of public safety and confidence in the meat supply, USDA ordered the detention, testing and investigation of these products. FSIS checked samples of the firms' products in distribution channels at 140 locations across the country for foreign matter, chemical residues and spoilage.

Commodities approved for the school lunch program and other federal feeding programs have always been of the highest quality, and USDA considers it imperative to take these steps as another indication of the government's commitment to maintain such standards.

For further information, see Press Release 1026-83, "Block Halts Ground Beef Distribution" (9-20-83).

Subscription Renewal Time for Food News for Consumers

It might be time to renew your subscription to "Food News for Consumers." This is the fourth issue of the newsletter since it was first offered for sale through the Government Printing Office. Since each subscription is good for one year, anyone who subscribed prior to the Winter 1983 issue should fill out the subscription form on the back page of the newsletter.

The cost of a year's subscription--four issues--is still $7.00 for domestic and $8.75 for foreign subscribers.

Each issue of "Food News for Consumers" keys you into USDA's vast network of food and nutrition information. It is the only newsletter that carries important current information from agencies in USDA involved in food, nutrition and consumer issues.

Each issue covers up-to-date information on such items as meat and poultry inspection, food assistance programs, meat grading, agricultural research and USDA's food and nutrition policies.

Other FSIS News

Oregon firm ordered to comply with the poultry products inspection act. Press Release #494-83 (5-9-83).

USDA simplifies condemned poultry carcass disposal. Press Release #553-83 (5-23-83).

USDA adopts requirements for producing cooked roast, corned beef. Press Release #590-83 (6-2-83).

USDA reports court actions on meat act violations in three states. Press Release #760-83 (7-13-83).

Packer admits butchering diseased, disabled livestock. Press Release #825-83 (7-29-83).

USDA proposes to increase rates for meat and poultry inspection. Press Release #922-83 (8-23-83).

USDA withdraws inspection from Trenton, N.J., meat processing firm. Press Release #993-83 (9-13-83).

USDA proposes to reduce fresh water requirements for poultry chillers. Press Release #1002-83 (9-14-83).

How to Obtain Free Copies

Single free copies of press releases, Federal Register reprints, studies, fact sheets, and publications mentioned in the FSIS section of this newsletter are available from FSIS Public Awareness, Room 1163-S, USDA, Washington, D.C. 20250. Phone: (202) 447-9351.

Who can Answer Your Questions

If you have a question or a problem with the safety or wholesomeness of a meat or poultry product, or the truthfulness of its labeling, contact FSIS Meat and Poultry Hotline, USDA, Washington, D.C. 20250 or call (202) 472-4485.

Where to Send Comments

Send your comments on proposals in the FSIS section to: Regulations Coordination Division, Room 2637-S, FSIS, USDA, Washington, D.C. 20250. Usually two copies are requested. Be sure to identify the proposal you are commenting on by referring to the title of informal proposals or, for formal proposals, the date of publication in the Federal Register.

USDA's Food and Nutrition Service:

- *Administers food programs, including:*
  - *The food stamp program;*
  - *The national school lunch and school breakfast programs;*
  - *The special supplemental food program for women, infants, and children (WIC); and*
  - *The food distribution, child care food, summer food service and special milk programs.*

School Cafeterias Serving Better Lunches

Were you one of the millions who over the last 35 years grew up pushing trays along cafeteria lines and eating government-subsidized school lunches?

Remember how everyone always seemed to complain about the food? There were even names for it like "mystery meat" or "chicken tetrachloride." Of course, if you or a friend had a car, you could slip off to buy a foot-long hotdog, some greasy french fries and a milkshake at a local drive-in.

Today's school cafeteria is a different place than many of us remember. For instance, one of the hottest items served is pizza--the kind that has long strands of cheese streaming after each bite.

What has been responsible for this renaissance in the cafeteria? The answer is commodity processing contracts.

When dairy products, such as process cheese, began filling government warehouses faster than USDA could sell or give them away to eligible outlets, USDA made those dairy surpluses available to public and non-profit elementary and secondary schools. Other USDA commodities were added, including butter, nonfat dry milk, flour, rice, honey and corn meal.

With this greater distribution of surplus foods, a problem developed. Flour, nonfat dry milk, shortening and other products from which bread is made were available, but schools lacked the staff and equipment to make the bread.

Hence, the inspiration for new commodity processing contracts--written agreements between state agencies and commercial processors--to provide final products, such as pizza, bread, ice cream and soups, made in whole or in part

from government-donated foods. Other contracts provide for repackaging or converting food into more convenient, readily usable forms. They might process whole turkeys into roasts, turkey ham, turkey salami, turkey hotdogs, turkey bologna and turkey pastrami.

Processors may contract to prepare plates of food and deliver them to schools where the cafeteria staff reheat them before serving. This allows small school systems, which can't afford kitchens and staff, to provide hot lunches to their students. Processing contracts can reduce the price of food dishes by 50 percent.

And, school children receive high quality meals. For example, pizzas prepared for schools contain more cheese, tomatoes and meat than typical commercial varieties and can be made almost entirely from USDA-donated surpluses. Schools also have introduced milkshakes that are better tasting and more nutritious than their fast-food counterparts. Using nonfat dry milk, which contains 12 percent dairy solids, processors can make milkshakes with 18 percent dairy solids and only six percent sugar. Most commercial milkshakes contain 20 percent sugar and only six percent milk solids.

School lunch has always been a good buy. The difference today is the greater variety of food available in school cafeterias thanks to innovative commodity processing contracts that allow schools to target lunches to the tastes of young people while providing well-balanced, nutritious meals.

For more information on school lunches, contact: John Webster, Office of Public Information, Food and Nutrition Service, USDA, 3101 Park Center Dr., Alexandria, Va. 22302, Telephone: (703) 756-3292.

Surplus Food Provided to Needy Persons

USDA's Food and Nutrition Service will oversee distribution to states of increased amounts of bulk Cheddar cheese, process cheese, non-fat dry milk, corn meal, honey and butter. These foods are intended for household use by needy persons.

Individual states will establish their own guidelines to ensure that these commodities are distributed only to those persons who lack sufficient resources to provide for themselves. USDA will monitor the state programs to ensure the guidelines are followed.

Since 1981 FNS has provided surplus dairy commodities, and later grain commodities, for its household distribution program administered by states. In the 21 months of its existence, this program has given more than 700 million pounds of commodities worth $1 billion to persons requiring food assistance.

Eligibility for Food Assistance Adjusted

A family of four with a gross annual income of $12,870 is now eligible for food stamp assistance. Previously, the yearly income limit was $12,090. The income eligibility limits increased July 1, reflecting an annual adjustment for cost of living increases. Currently, 21.5 million people receive assistance from the federal food stamp program, administered by USDA's Food and Nutrition Service.

The income limits for free school meals also changed July 1, jumping from $12,090 to $12,570 gross annual income for a family of four. The annual income limit for reduced-priced school meals increased from $17,210 to $18,315.

The special supplemental food program for women, infants and children--WIC--raised its limits for the family of four to $18,315 annual income, up from the $17,210 for last year.

FNS adjusts its income eligibility guidelines each year to reflect changes in the Consumer Price Index.

For more information, telephone (703) 756-3286 and request Press Release #720-83, "USDA Adjusts Food Stamp Limits for Change in Cost of Living" and #730-83, "New Income Limits for Free and Reduced-Price School Meals, WIC Program."

High-Tech Helps Avoid Fraud in Food Stamp Program

USDA's Food and Nutrition Service has awarded a $2.2 million contract to Planning Research Corp., McLean, Va., to test an electronic food stamp system in Reading, Pa. The new system eliminates both the paper scrip now used for food stamps and the possibility of fraud, a recurring problem with paper stamps.

The new system, scheduled to run for 18 months, uses electronic technology to debit the amount of food stamp purchases in food stores. Under the system, each food stamp household will get a magnetic card that has the recipient's picture, account number and biographical information laminated on it. The household will also get a personal identification number that must be used with the card at the grocery store to verify use of the card.

At the grocery checkout station, checkers will insert the food stamp identification card into a computer terminal and recipients will enter their personal ID number into an accompanying keyboard to activate use of the card. If the card and the personal identification number match, recipients' accounts will be automatically debited by the amount of the food purchases, and the grocers' accounts at a designated bank will be credited with the same amount.

Food stamps are currently issued in various ways, but all systems use paper coupons. These negotiable documents present the possibility for illegal trafficking, mail fraud and lost and stolen coupons. The new system should eliminate those problems.

For more information, telephone (703) 756-3286 and request Press Release #690-83, "USDA to Test System in Pennsylvania That Eliminates Paper Food Stamps."

Food Plan for Needy Focuses on Nutrition and Low Cost

USDA's Food and Nutrition Service is considering changes in its thrifty food plan, the plan upon which food stamp allotments are based. FNS hopes the revisions will help people participating in the food stamp program get more nutritious meals at low cost.

The proposed plan calls for more meat, dry beans, vegetables, fruit, cereal and flour for most age groups than are recommended in the previous thrifty food plan, developed in 1975.

The possible changes are based on updated information on food prices, food consumption, nutritive value of certain foods and human nutritional requirements. The new plan would help provide desired levels of folacin, zinc and other nutrients in the daily diet not considered in the earlier plan.

USDA's Human Nutrition Information Service regularly figures foods and costs for four food plans--thrifty, low cost, moderate cost and liberal. Each plan contains enough food to provide nutritious daily diets. Food stamp allotments are based on the thrifty plan.

For more information, telephone (703) 756-3286 and request Press Release #815-83, "USDA Proposes Revisions in Food Plan."

USDA's Agricultural Research Service:

- *Ensures high-quality food and fiber for Americans and for export –in areas of:*
  - *Food safety and quality;*
  - *Natural resources conservation;*
  - *Human nutrition;*
  - *Productivity of plant crops and of livestock; and*
  - *Farm product marketing.*

New Test Helps Ensure Quality of Ice Cream

Now something besides the peculiarities of human taste can test the quality of ice cream. Scientists with USDA's Agricultural Research Service have developed a new test that shows whether a cheaper and less nutritious basic ingredient has gone into ice cream.

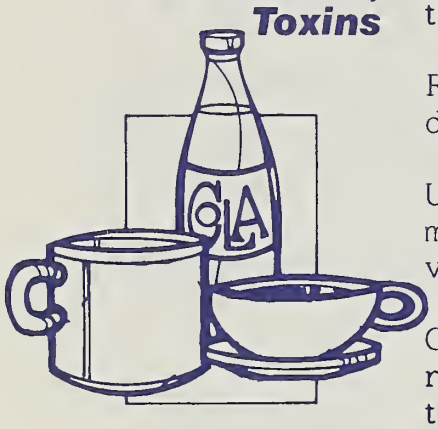
Whey, a watery byproduct of cheese processing, is sometimes substituted for casein, a quality source of protein in ice cream. In testing frozen dairy products, though, whey can not be easily separated from casein. Thus, their respective amounts can not be measured.

The scientists, however, found they could determine the amount of casein in frozen dairy products by measuring the amount of phosphorus. This is because phosphorus is a component of casein but not of whey. By measuring total protein and the amount of phosphorus in a sample of ice cream, they can determine what percentage of the total protein is casein.

The U.S. Food and Drug Administration, the agency responsible for enforcing quality standards for ice cream, can now use this test to ensure the quality of frozen desserts and other milk products for consumers. In addition, ice cream manufacturers need no longer worry that a few competitors might be undercutting their prices by adulterating products with cheaper ingredients.

For more information on the new test, contact Frederic W. Douglas, Eastern Regional Research Center, Agricultural Research Service, USDA, Philadelphia, Pa. 19118, Telephone: (215) 233-6454.

Caffeine in Foods Helps Prevent Mold, Toxins



The effects of caffeine seem to keep some people from enjoying coffee, cocoa or cola. But the caffeine that occurs naturally in coffee and cocoa beans and kola nuts gives these raw products a built-in resistance to contamination by toxins produced by fungi. These fungi commonly appear as molds.

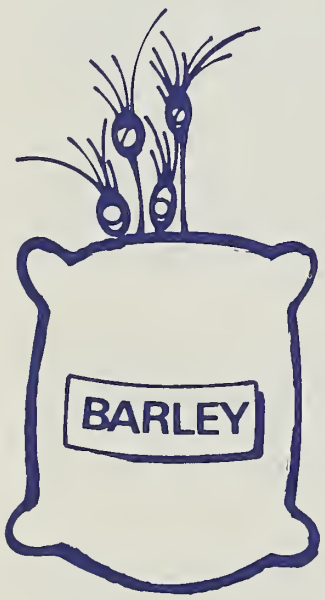
Researchers with USDA's Agricultural Research Service think the caffeine disrupts fungal cell growth by thwarting its ability to use carbohydrates.

Usually, improper storage in hot, humid climates causes the toxin-producing molds to contaminate beans, nuts and a variety of other foods, like fruits and vegetables.

Caffeine has many well-understood effects on plants and animals, but the reason for its ability to inhibit the creation of fungal toxins remains a tantalizing mystery for food safety researchers. Further studies of caffeine's suppression of toxins could lead to better understanding and prevention of mold growth and toxin production in other foods, as well.

For more information on this research, contact: Dr. Robert L. Buchanan, Northeast Regional Research Center, Agricultural Research Service, USDA, Philadelphia, Pa. 19118, Telephone: (215) 233-6526.

Barley Helps Reduce Cholesterol



Barley's many roles--in brewing beer, in breakfast food and as feed for livestock--now may be expanding to include lowering cholesterol in chickens and pigs.

Scientists with USDA's Agricultural Research Service found that 20 percent high-protein barley flour added to a corn-based diet lowered cholesterol in blood plasma 20 percent in chicks and increased their growth 20 percent. Egg yolks also had 20 percent less cholesterol when chickens were fed a freeze-dried culture filtrate of the fungus Trichoderma viride.

Studies showed that diets of barley and fungal culture affect the activity of certain key enzymes in animal livers. These enzymes control the rate at which cholesterol is made and broken down into bile acids. Scientists are not sure of the chemical make-up of the cholesterol-lowering substances in barley and the fungal culture. However, further research may give them insights on two problems: how enzymes work together to control cholesterol in animals on high cholesterol diets and why thyroid-deficient or diabetic animals can not degrade cholesterol efficiently.

For further information, contact: Warren C. Burger, Barley and Malt Laboratories, Agricultural Research Service, USDA, Madison, Wis. 53705, Telephone: (608) 262-3355.

Gene Cloning May Sprout Super Seeds

Why some seeds sprout while others do not is a longstanding riddle. Scientists with USDA's Agricultural Research Service say recombinant-DNA technology may get the answer from certain genes that act as a signal for seeds to germinate.

The researchers are pursuing implications of earlier findings that germination of barley, rice and wheat seeds is triggered by a hormone called gibberellic acid, produced by the embryo inside the seed.

These enzymes digest starches stored in the seed and convert them to simple sugars and amino acids. It is these sugars and acids that nourish the embryo so the seed can germinate and grow roots.

If scientists can clone the genes that respond to the gibberellic acid signal to produce the digestive enzymes, they may be able to produce super seeds that have increased vigor and ability to germinate and grow uniformly.

For further information, contact: G. Ram Chandra, Seed Research Laboratory, Agricultural Research Service, USDA, Beltsville, MD. 20705, Telephone: (301) 344-3466.

Video and Computer Predict Lean, Fat Meat

A video camera and computer are telling meat researchers how much lean and fat are in beef carcasses. Still in the experimental stage, the video-computer analysis may become a new electronic technique for meat grading.

But that's not all. The system, called a visual image analyzer, could help the meat industry assure consumers that they are getting the leanness in beef they desire. That's because the automated technique, developed by researchers with USDA's Agricultural Research Service and Kansas State University, may offer a new degree of accuracy and consistency in predicting the lean and fat content in beef.

What the camera sees when it looks at a carcass is converted by the computer into numerical codes for fat, lean and marbled portions of the meat. So far, the analyzer has been accurate 97 percent of the time in measuring total fat areas and 98 percent for total lean areas.

Under the current system, USDA meat graders measure visible areas of lean and fat of the twelfth and thirteenth ribs of a carcass and then apply an equation to predict the total content. This conventional method is 84 percent accurate. Studies on a larger scale in meatpacking houses are needed to confirm the analyzer's accuracy and speed, however.

For more information, contact: H. Russell Cross, Roman L. Hruska Meat Animal Research Center, Clay Center, Neb. 68933, Telephone: (402) 762-3241.

Gamma Rays Kill Moth Larvae in Fruit

Codling moths are serious pests of apples and pears in this country, and that spells trouble in trying to export these fruits to Japan, one of the world's biggest fruit markets. Japan does not have nor want these pests, so it bans any fruit that could carry the moths.

A second problem is that methyl bromide, a fumigant successful in killing codling moths infesting cherries and acceptable to Japan, doesn't work on apples and pears. That's because the insect is hibernating or in the dormant stage when these fruits are ripe and is not as vulnerable to this fumigant.

Scientists with USDA's Agricultural Research Service, who developed the fumigation treatment for cherries, hope radiation may be a suitable substitute for fumigation. Then, companies selling apples and pears to export markets could use low doses of gamma radiation. It kills all exposed codling moth

larvae, leaves no radiation and keeps fruit safe for human consumption. Such success could remove a major obstacle to the lucrative Japanese export market for these fruits.

For further information, contact: Harold R. Moffitt or Arthur K. Burditt, Yakima Agricultural Research Laboratory, Agricultural Research Service, USDA, Yakima, Wash. 98902, Telephone: (509) 575-5974.

USDA's Economic Research Service:

- *Analyzes international activities of agricultural significance;*
- *Does research on commodities, food and nutrition, natural resources, and rural development; and*
- *Furnishes timely and objective economic and statistical information to farmers, other rural Americans, industries, consumers, and policy-makers.*

Consumers Benefit from Progress in Poultry Production

The poultry industry has seen greatly improved technical efficiencies in production and marketing during the past quarter century. And that's good news for consumers since it has increased the supply of poultry products and held prices down.

Improved productivity has enabled the poultry industry to produce and market chickens, turkeys and eggs at prices that have not risen as fast as overall consumer prices or production costs for labor, feed and energy. While the Consumer Price Index has more than tripled since 1960, retail prices for chicken rose only 74 percent, turkey 67 percent and eggs 59 percent. If the poultry industry used the same technology today as in 1960, retail prices for poultry products would generally be about double current levels to cover costs of production and marketing.

Advances in breeding, nutrition, housing, equipment, rearing, disease control and management have all helped reduce the real (adjusted for inflation) cost of production. The same is true in slaughter and processing, which have benefited from uniform and high-quality birds, larger lots of birds, more stable production throughout the year, plant specialization and new labor-saving equipment. Improvements in transportation and refrigeration have also enabled processors to economize by shipping larger amounts at one time.

Eggs provide a clear example of this progress. The rate of egg laying per hen per year has increased steadily, from 174 eggs in 1950 to 242 in 1980. This higher productivity has enabled producers to meet the demand for eggs with fewer hens--300 million in 1950, compared with 288 million in 1980. Savings in labor, feed and energy have kept prices down despite increases in each of these necessary aspects of production.

For more information, see: "Consumers Gain from Progress in the U.S. Poultry Industry," National Food Review (NFR-23), Summer 1983.

USDA's Human Nutrition Information Service:

- *Maintains USDA's Nutrient Data Bank;*
- *Conducts the Nationwide Food Consumption Survey;*
- *Monitors nutrient content of the U.S. food supply;*
- *Provides nutrition guidelines for education and action programs;*
- *Collects and disseminates food and nutrition materials; and*
- *Conducts nutrition education research.*

Smart Cooking Slows Nutrient Loss in Peas and Beans

Dried beans and peas, members of the legume family, are a good source of nutrients like protein and the B vitamins. But the amount of nutrients retained after cooking can vary depending on the size of the beans and peas, the cooking time and the amount of water used for cooking, say scientists at USDA's Human Nutrition Information Service.

The researchers found major nutrient losses occur in cooking legumes when water-soluble nutrients, such as potassium and the B vitamins, leach into the cooking water. Reducing the amount of cooking water, so that little or no water remains when the legumes are done, keeps nutrient loss to a minimum.

Length of cooking time is another critical factor in retaining nutrients. Large legumes, like chickpeas and broadbeans, take longer to cook and lose more nutrients than small legumes, like blackeye peas and lentils, which cook more quickly. As might be expected, medium-size beans and peas--great northern beans, pinto beans and white beans, for example--fall somewhere in between.

The article, "Effect of Cooking on Nutrient Retention of Legumes," Cereal Foods World, Vol. 28, No. 6, June 1983, provides more information on the results of this study.

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